

REMARKS

Claims 1-9 and 13-21 are pending in the present Application.

I. A Request for Continued Examination (RCE) is included herein.

Applicants respectfully note that this is the second RCE that has been filed in this application, and Applicants respectfully seek to cooperate and expedite prosecution in any way possible. Accordingly, Applicants would welcome the opportunity to discuss this case by telephone if the Examiner has any suggestions for possible claim amendments.

II. The obviousness rejection of claims 1, 8, and 13-17 based on Paranjpe (US 2003/0003635), as noted on page 2 of the Office Action.

The USPTO respectfully rejects claims 1, 8, and 13-17 under 35 U.S.C. 103(a) as being unpatentable over Paranjpe. Claims 1 is an independent claims.

A. Paranjpe does not teach or suggest a partial insulating film having thickness A satisfying the relationship $0.3 \text{ nm} \leq A < 2 \text{ nm}$, as claimed in claim 1.

Claim 1 claims in relevant part:

“forming a partial insulating film, wherein the partial insulating film has a thickness A in the range of 0.3 to 2 nm satisfying the relationship $0.3 \text{ nm} \leq A < 2 \text{ nm}$;” (emphasis added)

No new matter is added by the amendments. Support for the amendments is found in present Figures 3 and 4(B) and on pages 7-8 of the present specification. Regarding these limitations, it is respectfully not seen where Paranjpe teaches the claimed method quoted above.

For background, the USPTO respectfully argues on page 3 of the Office Action that the previously claimed range is obvious because Paranjpe teaches 25 cycles at 0.8 angstroms per cycle (i.e., 2 nm). However, regarding the amendments, **Applicants respectfully note that the lowest possible thickness taught in Paranjpe (i.e., 2 nm) is outside of the specifically claimed range of claim 1 of $0.3 \text{ nm} \leq A < 2 \text{ nm}$ (i.e., less than 2 nm).** Thus, Paranjpe does not teach or suggest a partial insulating film having thickness A satisfying the relationship $0.3 \text{ nm} \leq A < 2 \text{ nm}$, as claimed in claim 1 (see also pages 7-8 of the present specification).

In contrast, present Figures 3 and 4B illustrate at least one possible embodiment of the claimed method quoted above. For example, as noted in present Figure 3, the amount of impurities removed above is relatively constant above a thickness of 2 nm. In contrast, below 2 nm thickness, the amount of impurities removed is proportional to the film thickness. In other words, **the removal of impurities is most efficient when the partial insulating film has thickness A satisfying the relationship $0.3 \text{ nm} \leq A < 2 \text{ nm}$, as claimed in claim 1.**

The distinction noted above inherently results in significant advantages over conventional methods. For example, as seen in present Figures 3 and 4(B) **the specifically claimed range of claim 1 shows superior impurity removal over conventional ranges** (see pages 7-8 of the present specification).

Thus, overall, it is respectfully asserted that Paranjpe does not disclose all of the limitations of independent claim 1. Therefore, it is respectfully asserted that Paranjpe is allowable over independent claim 1.

B. The dependent claims.

As noted above, it is respectfully asserted that independent claim 1 is allowable, therefore, it is further respectfully asserted that dependent claims 8 and 13-17 are also allowable.

III. The obviousness rejections of claims 2-7, 9, and 18-21 based on Paranjpe in view of Colombo (US 2005/0136690), as noted on page 4.

The USPTO respectfully rejects claims 2-7, 9, and 18-21 under 35 U.S.C. 103(a) as being unpatentable over Paranjpe and Colombo.

Applicants respectfully note that independent claims 9 and 21 claim “forming a partial insulating film, wherein the partial insulating film has a thickness A satisfying the relationship $0.3 \text{ nm} \leq A < 2 \text{ nm}$,” similar to independent claim 1.

As noted above in Section II, Paranjpe does not teach or suggest the specifically claimed thickness A satisfying the relationship $0.3 \text{ nm} \leq A < 2 \text{ nm}$, as claimed in claim 1. Additionally, Colombo respectfully does not overcome this deficiency in the primary reference Paranjpe because Colombo does not teach or suggest a film thickness that satisfies the specifically claimed relationship $0.3 \text{ nm} \leq A < 2 \text{ nm}$.

Thus, it is respectfully asserted that the cited references, taken either alone or in combination, do not teach or suggest all of the limitations of independent claims 9 and 21. Therefore, it is respectfully asserted that independent claims 9 and 21 are allowable over the cited references.

Additionally, as noted above, it is respectfully asserted that independent claims 1 and 9 are allowable, and therefore it is further respectfully asserted that dependent claims 2-7 and 18-20 are also allowable.

IV. Conclusion.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable. Accordingly, reconsideration and allowance of all of the claims is respectfully requested.

Please contact the undersigned for any reason. Applicants seek to cooperate with the Examiner, including via telephone if convenient for the Examiner.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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